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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/571,888	03/14/2006	Luigi Turrini	2541-1046	2688
<small>465</small> YOUNG & THOMPSON 209 Madison Street Suite 500 ALEXANDRIA, VA 22314			<small>7590</small> EXAMINER BAREFORD, KATHERINE A	
			ART UNIT 1792	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/571,888

Applicant(s)

TURRINI, LUIGI

Examiner

Katherine A. Bareford

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2009.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
4a) Of the above claim(s) 19 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-19 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 14 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 3/14/06
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Due to the amendment of July 2, 2009 to make claim 14 dependent on claim 1, Groups I and II have been rejoined, and claims 1-18 will be examined.
2. Applicant's election with traverse of Group I in the reply filed on July 2, 2009 is acknowledged. The traversal is on the ground(s) that Group III should be rejoined with Group I because it is a product by process claim indivisible from claim 1 because it cannot be performed by a method other than claim 1, and the method of claim 1 cannot produce a product other than that of claim 19. This is not found persuasive because this restriction is a lack of unity restriction where the inventions do not form "a single general inventive concept under PCT Rule 13.1", where the special technical feature in common of Groups I and III is not the applicant's contribution, and therefore lack of unity exists (See Office Action of June 4, 2009, paragraph 2). Applicant has not traversed this position by the Examiner, and therefore the lack of unity is maintained. Applicant's arguments were addressed to restriction practice under MPEP 806.05(f), which does not apply in this case.

The requirement is still deemed proper and is therefore made FINAL.

3. Claim 19 is withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking

claim. Applicant timely traversed the restriction (election) requirement in the reply filed on July 2, 2009.

Claim Objections

4. Claims 1, 6 and 17 are objected to because of the following informalities: (a) claim 1, line 2, "it" should apparently be "the method" to clarify what is referred to. (b) claim 6, line 2, "arch" should apparently be "arc" for correct spelling. (c) claim 17, line 5, "generator, contacting" should be "generator, and contacting" for proper grammar.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, line 6, the term "small" in claim 1 is a relative term which renders the claim indefinite. The term "small" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the

art would not be reasonably apprised of the scope of the invention, as it is not clear what distinguishes a "small" particle from a "large" particle, for example.

Claim 6, line 1, this claim depends from itself, which is improper. For the purpose of examination, the Examiner has treated the claim as depending from claim 1, but applicant should clarify what is intended.

Claim 6, line 3, "said material supply" lacks antecedent basis. Does applicant mean "metal supply" as in claim 1?

Claim 8, line 2, the term "soft" in claim 8 is a relative term which renders the claim indefinite. The term "soft" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention, as it is not clear what distinguishes a "soft" metal from a "hard" metal, for example.

Claim 9, line 2 "the metallization" lacks antecedent basis.

Claim 9, line 3, "a soft metal layer" is unclear as to what is required by "soft" metal for the same reasons as discussed with regard to claim 8, line 2 above.

Claim 10, line 3, "said hard metal" lacks antecedent basis.

Claim 10, lines 3-5, it is confusing as to what is required by such a "hard" metal as the group from which the metal is selected is unclear in scope because "various alloys with decorative function" is indefinite as to what scope is provided while still being considered "hard".

Claim 11, line 2, "said step of application of a metal layer" lacks antecedent basis as it is unclear what step of claim 1 corresponds to this step.

Claim 11, line 4, "the humidity" lacks antecedent basis.

Claim 11, line 5, "the porosity" lacks antecedent basis.

Claim 13, line 2, "the metallization step" lacks antecedent basis as it is unclear what step of claim 1 corresponds to this step.

Claim 13, line 5, "the external metal layer" lacks antecedent basis.

Claim 14, line 3, "one metal layer" is confusing as to if this metal layer is what is applied by the method of claim 1 or whether a differently provided metal layer is referred to.

Claim 14, line 10, "saline solution" is unclear as if a sodium chloride solution is referred to, or any solution containing any form of salt, such as any metal salt. For the purpose of examination, the Examiner has treated the claim as containing any form of salt.

Claim 15, lines 2-3, it is unclear if this metal layer is what is applied by the method of claim 1 or whether a differently provided metal layer is referred to.

Claim 16, line 2, "type" is unclear as to what is meant. Does applicant mean metal salt?

The other dependent claims do not cure the defects of the claims from which they depend.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown, Jr. et al (US 5879817).

Claim 1: Brown teaches a method of making a decorative effect on the surface of an object. Column 9, line 65 through column 10, line 5. The steps include arranging an object in the vicinity of means for delivering molten metal. Column 11, lines 35-45 (note the standoff distance between the arc gun (means for delivering) and the object). A metal supply is fed to the means for delivering. Column 11, lines 35-45 (the titanium wires fed to the electric arc gun). The metal supply is melted at the means for delivering, thus creating small particles of molten metal. Column 4, lines 45-50 and column 5, lines 1-5. A gas current is contemporaneously fed at a determined pressure in the means for delivering, the current entraining the particles of molten metal, bringing them on the surface of the object to form a coating. Column 5, lines 1-5 and column 11, lines 35-45 (pressure of 60 psi) and column 14, lines 30-35.

If by "means for delivering" applicant is raising "means plus function" language as in 35 USC 112, sixth paragraph, the Examiner notes that the arc spraying apparatus

of Brown would correspond to the arc spraying apparatus described by applicant in the specification.

Claim 5: the metal supply is at least one metal wire. Column 11, lines 35-45.

Claim 6: the arc spray gun provides an arc between the metal supply of a wire and another meltable wire. Column 4, lines 25-33 and column 11, lines 35-45 and column 12, lines 1-15.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-6 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over France 2426032 (hereinafter '032) in view of Crapo, III, et al (US 5191186).

Claim 1: '032 teaches a method of making a decorative effect on the surface of an object. Abstract. The method includes the steps of arranging an object in the vicinity of means for delivering molten metal (as the spray gun applies the molten metal on the object, the object will be in the "vicinity" as claimed). Abstract. A metal supply is fed to the means for delivering (as metal must be provided to the spray gun to apply).

Abstract. The spray gun applies molten metal on the article to be sprayed to coat the object. Abstract.

Claims 8-10: a first spraying of molten zinc (soft) metal can be applied. Abstract. Then a further hard, decorative material such as copper, bronze or brass (page 4, lines 30-40).

Claim 11: before the application of the metal layer, a drying step is provided in an oven (stove), which would remove humidity present. Abstract.

Claim 12: The block can be concrete bonded by resin. Abstract.

'032 teaches all the features of these claims except (1) the features of the spray system for spraying the metal (claims 1-6) and (2) the waterproofing steps (claim 12).

However, Crapo teaches a desirable spray system for spraying materials such as metal is by an arc wire spraying system. Column 1, lines 1-20 and column 2, lines 35-50. The arc wire spraying system provides a means for delivering molten metal. Column 3, lines 5—60. A metal supply is fed to the means for delivering. Column 3, lines 60-68 and figure 2 (wires 18). The metal supply is melted at the means for delivering, thus creating small particles of molten metal. Figure 2 and column 4, lines 10-25. A gas current is fed at a determined pressure in the means for delivering, with the current entraining the particles of molten metal, bringing them onto the surface of a object to coat the object. Column 4, lines 25-50 and column 9, lines 1-15. The means for delivering have a melting site directly upstream from a nozzle, whereby the gas current at a predetermined pressure conveys the particles of molten metal and brings them

through the nozzle spreading them on the surface to coat. Figure 2 and column 4, lines 10-50. The gas current is created by a main gas flow that can be at a fixed pressure and an auxiliary gas flow that can be at an adjustable pressure. Column 4, lines 25-35, column 7, lines 20-35 and column 8, lines 25-40. The metal supply can be at least one metal wire. Column 3, lines 50-60 and column 5, lines 20-30. The melting means are actuated by an electrical arc that discharges itself between the metal wire supply and an electrode consisting of another wire. Column 4, lines 10-25 and column 5, lines 5-20.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify '032 to (1) use the spray system as taught by Crapo to provide the molten metal spraying with an expectation of providing a desirable spray coating of molten metal, as '032 teaches to provide spraying of molten metal, and Crapo teaches a system for providing such spraying that provides the means for delivering system as described in claims 1 and 3-6. Furthermore, it would have been obvious to provide the melting and spraying in an atmospheric pressure when using the system of Crapo, because Crapo teaches no limitation of environmental pressure, and therefore one of ordinary skill in the art would expect that it could desirably be used at ambient, or atmospheric pressure, since no special pressure is indicated as being needed. If by "means for delivering" applicant is raising "means plus function" language as in 35 USC 112, sixth paragraph, the Examiner notes that the arc spraying apparatus of Crapo would correspond to the arc spraying apparatus described by applicant in the specification. (2) It would further be expected that a waterproofing coating, such as a

resin, could be applied to the surface prior to the spraying and after the drying step, because '032 teaches that the article to be sprayed can include concrete bonded by resin, and does not indicate when the resin is applied, thus including applying the resin at any point before the metal is applied and it would be inclusive of waterproofing coatings, as waterproofing coatings are well known to include resin coatings. As well, '032 teaches that other surfaces can be applied with the metal coatings (abstract, at least one surface), which would also provide a degree of waterproofing and the metal coatings would be applied after drying and one surface would be coated before another.

11. Claims 1, 2, 5, 7 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over France 2426032 (hereinafter '032) in view of Browning (US 4634611).

Claim 1: '032 teaches a method of making a decorative effect on the surface of an object. Abstract. The method includes the steps of arranging an object in the vicinity of means for delivering molten metal (as the spray gun applies the molten metal on the object, the object will be in the "vicinity" as claimed). Abstract. A metal supply is fed to the means for delivering (as metal must be provided to the spray gun to apply).

Abstract. The spray gun applies molten metal on the article to be sprayed to coat the object. Abstract.

Claims 8-10: a first spraying of molten zinc (soft) metal can be applied. Abstract. Then a further hard, decorative material such as copper, bronze or brass (page 4, lines 30-40).

Claim 11: before the application of the metal layer, a drying step is provided in an oven (stove), which would remove humidity present. Abstract.

Claim 12: The block can be concrete bonded by resin. Abstract.

'032 teaches all the features of these claims except (1) the features of the spray system for spraying the metal (claims 1, 2, 5, 7) and (2) the waterproofing steps (claim 12).

However, Browning teaches a desirable spray system for spraying materials such as metal is by a flame spraying system. Column 1, lines 5-30. The flame spraying system provides a means for delivering molten material that can be metal. Column 1, lines 5-15 and column 4, lines 35-45. A material supply is fed to the means for delivering. Figure 1 and column 35-40. The material supply is melted at the means for delivering, thus creating small particles of molten material. Figure 1 and column 4, lines 35-45 and column 3, lines 45-50. A gas current is fed at a determined pressure in the means for delivering, with the current entraining the particles of molten material, bringing them onto the surface of an object to coat the object. Column 4, lines 45-60 (since the compressed air would have a set pressure as provided). The metal supply can be at least one metal wire. Column 5, lines 50-55. The melting means are actuated by the combustion of a gas fuel with a comburent gas at said melting site. Column 4, lines 25-35 (oxygen and fuel gas).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify '032 to (1) use the spray system as taught by Browning to

provide the molten metal spraying with an expectation of providing a desirable spray coating of molten metal, as '032 teaches to provide spraying of molten metal, and Browning teaches a system for providing such spraying that provides the means for delivering system as described in claims 1, 5 and 7. Furthermore, it would have been obvious to provide the melting and spraying in an atmospheric pressure when using the system of Browning, because Browning teaches no limitation of environmental pressure, and therefore one of ordinary skill in the art would expect that it could desirably be used at ambient, or atmospheric pressure, since no special pressure is indicated as being needed. If by "means for delivering" applicant is raising "means plus function" language as in 35 USC 112, sixth paragraph, the Examiner notes that the arc spraying apparatus of Browning would correspond to the spraying apparatus described by applicant in the specification. (2) It would further be expected that a waterproofing coating, such as a resin, could be applied to the surface prior to the spraying and after the drying step, because '032 teaches that the article to be sprayed can include concrete bonded by resin, and does not indicate when the resin is applied, thus including applying the resin at any point before the metal is applied and it would be inclusive of waterproofing coatings, as waterproofing coatings are well known to include resin coatings. As well, '032 teaches that other surfaces can be applied with the metal coatings (abstract, at least one surface), which would also provide a degree of waterproofing and the metal coatings would be applied after drying and one surface would be coated before another.

12. Claims 1-6, 8 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 08-165553 (hereinafter '553) in view of Crapo, III, et al (US 5191186).

Claim 1: '553 teaches a method of making a decorative effect on the surface of an object. Abstract. The method includes the steps of arranging an object in the vicinity of means for delivering molten (melted) metal (as the arc spray system applies the molten metal on the object, the object will be in the "vicinity" as claimed). Abstract. A metal supply is fed to the means for delivering (as metal must be provided to the arc spray system to apply). Abstract. The metal supply (the wires) are melted at the means for delivering (spray system) creating small particles of molten metal. Abstract, paragraph [0021]. Air pressure at a determined pressure is provided for spraying the particles. Paragraph [0021]. The spray system applies molten metal on the article to be sprayed to coat the object. Abstract.

Claim 5: The metal supply is from wires. Abstract and paragraph [0021].

Claim 8: a first wire of aluminum (soft) metal can be used. Paragraph [0033].
And, a second wire of a different metal (Ti) can be used. Paragraph [0033].

Claim 13: after the application of the metal the coated object can be finished by oxidizing the surface of the coating. Abstract.

Claim 14: '553 provides that the oxidation can be provided electrochemically and would include arranging the object in the vicinity of oxidizing means (electrolytic bath). Paragraphs [0011] and [0034], for example. An amount of saline solution would be

provided to the oxidizing means (trisodium monophosphate solution, a sodium salt, for example or sodium hydroxide, would be provided to form the electrolytic bath).

Paragraphs [0011] and [0034]. A voltage is provided to the oxidizing means, which would discharge an electric current on the metal layer and cause oxidation. Paragraphs [0011] and [0034] (from the connection and the impressing).

Claim 15: the metal layer is obtained with a metallization step. Abstract.

Claim 16: the saline solution can be a metal ion (sodium) type. Paragraphs [0011] and [0034].

'032 teaches all the features of these claims except (1) the features of the spray system for spraying the metal (claims 1-6) and (2) precise oxidation features (claim 14).

However, Crapo teaches a desirable spray system for spraying materials such as metal is by an arc wire spraying system. Column 1, lines 1-20 and column 2, lines 35-50. The arc wire spraying system provides a means for delivering molten metal. Column 3, lines 5—60. A metal supply is fed to the means for delivering. Column 3, lines 60-68 and figure 2 (wires 18). The metal supply is melted at the means for delivering, thus creating small particles of molten metal. Figure 2 and column 4, lines 10-25. A gas current is fed at a determined pressure in the means for delivering, with the current entraining the particles of molten metal, bringing them onto the surface of a object to coat the object. Column 4, lines 25-50 and column 9, lines 1-15. The means for delivering have a melting site directly upstream from a nozzle, whereby the gas current at a predetermined pressure conveys the particles of molten metal and brings them

through the nozzle spreading them on the surface to coat. Figure 2 and column 4, lines 10-50. The gas current is created by a main gas flow that can be at a fixed pressure and an auxiliary gas flow that can be at an adjustable pressure. Column 4, lines 25-35, column 7, lines 20-35 and column 8, lines 25-40. The metal supply can be at least one metal wire. Column 3, lines 50-60 and column 5, lines 20-30. The melting means are actuated by an electrical arc that discharges itself between the metal wire supply and an electrode consisting of another wire. Column 4, lines 10-25 and column 5, lines 5-20.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to (1) modify '553 to use the spray system as taught by Crapo to provide the molten metal spraying with an expectation of providing a desirable spray coating of molten metal, as '553 teaches to provide arc spraying of molten metal, and Crapo teaches an arc spraying system for providing such spraying that provides the means for delivering system as described in claims 1 and 3-6. Furthermore, it would have been obvious to provide the melting and spraying in an atmospheric pressure when using the system of Crapo, because Crapo teaches no limitation of environmental pressure, and therefore one of ordinary skill in the art would expect that it could desirably be used at ambient, or atmospheric pressure, since no special pressure is indicated as being needed. If by "means for delivering" applicant is raising "means plus function" language as in 35 USC 112, sixth paragraph, the Examiner notes that the arc spraying apparatus of Crapo would correspond to the arc spraying apparatus described by applicant in the specification. (2) It further would have been obvious to modify '553

in view of Crapo to provide a measured amount of saline solution to the oxidizing means (electrolytic bath), since '553 teaches that an electrolytic bath with saline solution is provided, and one would want to provide a duplicatable action by providing controlled amounts of material rather than random amounts, and also not overflow the bath.

13. Claims 1, 2, 5, 7, 8 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 08-165553 (hereinafter '553) in view of Browning (US 4634611).

Claim 1: '553 teaches a method of making a decorative effect on the surface of an object. Abstract. The method includes the steps of arranging an object in the vicinity of means for delivering molten (melted) metal (as the arc spray system applies the molten metal on the object, the object will be in the "vicinity" as claimed). Abstract. A metal supply is fed to the means for delivering (as metal must be provided to the arc spray system to apply). Abstract. The metal supply (the wires) are melted at the means for delivering (spray system) creating small particles of molten metal. Abstract, paragraph [0021]. Air pressure at a determined pressure is provided for spraying the particles. Paragraph [0021]. The spray system applies molten metal on the article to be sprayed to coat the object. Abstract.

Claim 5: The metal supply is from wires. Abstract and paragraph [0021].

Claim 8: a first wire of aluminum (soft) metal can be used. Paragraph [0033].
And, a second wire of a different metal (Ti) can be used. Paragraph [0033].

Claim 13: after the application of the metal the coated objected can be finished by oxidizing the surface of the coating. Abstract.

Claim 14: '553 provides that the oxidation can be provided electrochemically and would include arranging the object in the vicinity of oxidizing means (electrolytic bath). Paragraphs [0011] and [0034], for example. An amount of saline solution would be provided to the oxidizing means (trisodium monophosphate solution, a sodium salt, for example or sodium hydroxide, would be provided to form the electrolytic bath). Paragraphs [0011] and [0034]. A voltage is provided to the oxidizing means, which would discharge an electric current on the metal layer and cause oxidation. Paragraphs [0011] and [0034] (from the connection and the impressing).

Claim 15: the metal layer is obtained with a metallization step. Abstract.

Claim 16: the saline solution can be a metal ion (sodium) type. Paragraphs [0011] and [0034].

'553 teaches all the features of these claims except (1) the features of the spray system for spraying the metal (claims 1, 2, 5, 7) and (2) precise oxidation features (claim 14).

However, Browning teaches a desirable spray system for spraying materials such as metal is by a flame spraying system. Column 1, lines 5-30. The flame spraying system provides a means for delivering molten material that can be metal. Column 1, lines 5-15 and column 4, lines 35-45. A material supply is fed to the means for delivering. Figure 1 and column 35-40. The material supply is melted at the means for

delivering, thus creating small particles of molten material. Figure 1 and column 4, lines 35-45 and column 3, lines 45-50. A gas current is fed at a determined pressure in the means for delivering, with the current entraining the particles of molten material, bringing them onto the surface of an object to coat the object. Column 4, lines 45-60 (since the compressed air would have a set pressure as provided). The metal supply can be at least one metal wire. Column 5, lines 50-55. The melting means are actuated by the combustion of a gas fuel with a comburent gas at said melting site. Column 4, lines 25-35 (oxygen and fuel gas).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to (1) modify '553 to use the spray system as taught by Browning to provide the molten metal spraying with an expectation of providing a desirable spray coating of molten metal, as '553 teaches to provide thermal spraying of molten metal (exemplifying arc spraying, but other methods can be used (paragraph [0010])), and Browning teaches another desirable system for providing thermal spraying that provides the means for delivering system as described in claims 1, 5 and 7. Furthermore, it would have been obvious to provide the melting and spraying in an atmospheric pressure when using the system of Browning, because Browning teaches no limitation of environmental pressure, and therefore one of ordinary skill in the art would expect that it could desirably be used at ambient, or atmospheric pressure, since no special pressure is indicated as being needed. If by "means for delivering" applicant is raising "means plus function" language as in 35 USC 112, sixth paragraph, the

Examiner notes that the arc spraying apparatus of Browning would correspond to the spraying apparatus described by applicant in the specification. (2) It further would have been obvious to modify '553 in view of Browning to provide a measured amount of saline solution to the oxidizing means (electrolytic bath), since '553 teaches that an electrolytic bath with saline solution is provided, and one would want to provide a duplicatable action by providing controlled amounts of material rather than random amounts, and also not overflow the bath.

14. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over '553 in view of Crapo as applied to claims 1-6, 8 and 13-16 above, and further in view of Hyter (US 3349014).

'553 in view of Crapo teaches all the features of these claims except the oxidizing means comprising a first conductive element and second conductive element connected respectively to positive and negative poles of a current generator and contacting the metal layer by a pad or spongy material that spreads the solution on said metal layer and the voltage.

However, Hyter teaches that it is well known to provide anodizing (oxidation) solution material to a metal surface by using a pad system of spongy material. Column 3, lines 5-20. Further, the electrolytic system for oxidizing can be provided with first and second conductive elements (the aluminum part and electrode) connected to positive and negative poles (anode and cathode) of an electric current generator.

Column 3, lines 40-50 and column 3, lines 15-30. The voltage applied can be 15-80 volts. Column 3, lines 65-75.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify '553 in view of Crapo to oxidize using the system of Hyter with an expectation of desirable oxidation results, as '553 in view of Crapo teaches using an anodizing oxidation system and Hyter teaches a desirable system for such oxidation. As to the voltage, Hyter teaches a voltage of 15-80 volts which overlaps with that claimed, and In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976).

15. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over '553 in view of Browning as applied to claims 1, 2, 5, 7, 8 and 13-16 above, and further in view of Hyter (US 3349014).

'553 in view of Browning teaches all the features of these claims except the oxidizing means comprising a first conductive element and second conductive element connected respectively to positive and negative poles of a current generator and contacting the metal layer by a pad or spongy material that spreads the solution on said metal layer and the voltage.

However, Hyter teaches that it is well known to provide anodizing (oxidation) solution material to a metal surface by using a pad system of spongy material. Column

3, lines 5-20. Further, the electrolytic system for oxidizing can be provided with first and second conductive elements (the aluminum part and electrode) connected to positive and negative poles (anode and cathode) of an electric current generator. Column 3, lines 40-50 and column 3, lines 15-30. The voltage applied can be 15-80 volts. Column 3, lines 65-75.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify '553 in view of Browning to oxidize using the system of Hyter with an expectation of desirable oxidation results, as '553 in view of Browning teaches using an anodizing oxidation system and Hyter teaches a desirable system for such oxidation. As to the voltage, Hyter teaches a voltage of 15-80 volts which overlaps with that claimed, and In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976).

16. France 2426032 and Hyter (US 3349014) were provided with applicant's IDS statement of March 14, 2006. Brown, Jr. was provided on the PTO-892 of June 4, 2009.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine A. Bareford whose telephone number is (571) 272-1413. The examiner can normally be reached on M-F(6:00-3:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Katherine A. Bareford/
Primary Examiner, Art Unit 1792